

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

1) Please replace the following paragraphs with the following amended paragraph:

a) Beginning at page 1, lines 4 – 7:

CROSS REFERENCES TO RELATED APPLICATIONS

This is a continuation of Application No. 10/367,373, filed February 13, 2003, which is a continuation of Application No. 09/993,167, filed November 6, 2001, now U.S. Pat. 6,725,490, the substances of which are incorporated herein by reference.

b) Beginning at page 8, line 12, to page 9, line 4, with the following amended paragraph:

Referring to Figure 11, in a third embodiment of the enhanced toothbrush **810** a second bristle holder **1110** is movably mounted in slots **1112** in the toothbrush head **816** and separately driven in a vibratory, lifting or vertical pulsating motion (e.g., in a direction substantially perpendicular to the longitudinal axis **1114** and substantially parallel to a surface **1115** of the second bristle holder **1110** as shown by the way of example in Fig. 11) within the slots **1112**, by a cam **1116** included on a driving shaft **1118**. Optionally, the driving shaft is supported by a shaft support **1120**. The cam **1116** can comprise one or more bends in the shaft **1118** or can be provided as a separate piece as previously discussed. A cam contact surface **1122** is located on a bottom surface of the second bristle holder **1110**. As the motor **819** (see FIG. 8) of the enhanced toothbrush **810** rotates the shaft **1118**, the cam **1116** comes into contact with the cam contact surface **1122** and drives or lifts, in a vibratory, lifting, or vertical pulsating motion, the second bristle holder **1110** causing the second bristle holder to lift or pulsate in a direction away from the head portion **816** and toward the teeth of a toothbrush user (not shown). As the shaft **118** continues to rotate, the cam **1116** becomes disengaged with the cam contact surface **1122**. During use,

as the cam ~~1016~~ **1116** comes in contact with the cam contact surface **1122**, bristles of the second bristle holder **1110** are urged against the users teeth with varying degrees of force. Preferably, bristles of the second bristle holder **1110** are urged between the teeth of the user to provide a cleaning and flossing function. As the cam disengages with the contact surface **1122**, bristles pressing against the teeth of the user urge the second bristle holder away from the ~~users~~ user's teeth and back toward the head portion **816**. As this lifting or vertical pulsating motion is repeated (as the shaft ~~1018~~ **1118** continues to rotate), a flossing or deep cleaning motion is provided that is distinct from and complimentary to the motion provided by the first bristle holder **814**.

c) Beginning at page 9, line 5, to page 10, line 1, with the following amended paragraph:

Referring to Figure 12, in a fourth embodiment of the enhanced toothbrush **810** a second bristle holder **1210** is movably mounted in slots (not shown, but similar to the slots **912** illustrated in Fig. 9) in the toothbrush head **816** and separately driven in a reciprocating or translating, longitudinal motion within the slots by a cam **1216** included on a driving shaft **1218**. Optionally, the shaft is supported by shaft supports **1217**. The shaft supports may include C or U shaped portions (not shown) that are operative to receive and snap around the shaft. Other means for retaining a shaft in a support are known in the art. The cam **1216** can comprise a shaped bead, with an appropriate eccentric configuration, placed or molded over and firmly secured to the shaft **1218**. In one embodiment, the cam **1216** includes a pair of acutely angled surfaces **1219**, **1220** which are inclined in the same direction and at the same angle of inclination, but which are disposed at opposite ends of the cam **1216**. The direction of inclination and angle of inclination can be varied as desired to change the frequency and stroke of the second bristle holder **1210**. First **1222** and second **1226** cam followers depend from a bottom surface of the second bristle holder **1210**. The cam followers **1222**, **1226** are offset or spaced from a transverse axis **1230** of the second bristle holder. The cam followers **1222**, **1226** straddle and/or capture the cam **1216** so that the angled surfaces **1219**, **1220** slidably engage the free ends of the cam followers **1222** and

1226. As the motor **819** (see FIG. 8) of the enhanced toothbrush **810** rotates the shaft **1218**, the first acutely angled surface **1220** of the cam **1216** comes into contact with a surface of the first cam follower **1222** and drives the cam follower, and therefore, the second bristle holder **1210**, away from the first bristle holder **814** along the longitudinal axis **818** of the head portion **816**. As the shaft **918 1218** continues to rotate, the cam **1216** becomes disengaged with the first cam follower **1222**. The second acutely angled second surface **1219** of the cam **1216** then comes into contact with a surface of the second cam follower **1226** and drives the second cam follower **1226**, and therefore, the second bristle holder **1210**, back toward the first bristle holder **814**. As this back and forth motion is repeated (as the shaft **918 1218** continues to rotate), a scrubbing action is provided by the reciprocating or translating motion that is distinct from and complimentary to the motion provided by the first bristle holder **814**.

d) Beginning at page 10, lines 2 – 27, with the following amended paragraph:

Referring to FIG. 13 and FIG. 14, in a fifth embodiment of the enhanced toothbrush **810** a second bristle holder **1310** is movably mounted in slots (not shown, but similar to the slots **912** illustrated in Fig. 9) in the toothbrush head **816** and separately driven in an reciprocating or translating, longitudinal motion, by a cam **1316** included on a driving shaft **1318**. Optionally, the shaft is supported by shaft supports **1317**. The shaft supports may include C or U shaped portions (not shown) that are operative to receive and snap around the shaft. Other means for retaining a shaft in a support are known in the art. The cam **1316** is sinusoidal or curvilinear in nature in that it has one or more adjacent arcuate bends **1319** and **1320** in the shaft **1318**. The arcuate bends **1319**, **1320** have each have an apex **1321**, and the apexes **1321** are disposed on opposite sides of the driving shaft **1318**. A cam follower **1322** depends from a bottom surface **1323** of the second bristle holder **1310** and is disposed between the apexes **1321** of the cam **1316**. As the motor **819** of the enhanced toothbrush **810** rotates the shaft **1318**, a first surface **1325** of the cam **1316** comes into contact with a first surface **1324** of the cam follower **1322** and drives the cam follower **1322**, and therefore, the second bristle holder **1310** away from the first bristle holder **814** in

a direction along the longitudinal axis **818** of the head portion **816**. As the shaft **918** **1318** continues to rotate, the apex **1321** passes and becomes disengaged with the first cam follower surface **1324**. A second surface **1326** of the cam **1316** then comes into contact with a second surface **1426** of the cam follower **1322** and the drives the cam follower **1322**, and therefore, the second bristle holder **1310** back toward the first bristle holder **814**. As this back and forth motion is repeated (as the shaft **918** **1318** continues to rotate), a scrubbing action is provided by the reciprocating or translating motion that is distinct from and complimentary to the motion provided by the first bristle holder **814**. The stroke and frequency of the reciprocating or translating motion can be varied by changing the spacing between the apexes and/or the amplitude, shape, or height of the apexes.

e) Beginning at page 10, line 28, to page 12, line 7, with the following amended paragraph:

Referring to Figure 15, in a sixth embodiment of the enhanced toothbrush **810**, a second bristle holder **1508** is movably mounted to the toothbrush head **816** with a pivot **1510**, which can be provided in the form of a pin or hinge. The pivot **1510** is installed at a centrally located transverse axis of the second bristle holder **1508**. In one embodiment, the second bristle holder **1508** pivots about a pin, which is anchored in the sidewalls of the toothbrush neck or head **816** at the midpoint of the second bristle holder **1508**. The second bristle holder **1508** is separately driven in a vibratory, swinging, teetering or rocking motion by a cam comprised of first **1512** and second **1514** cam portions included on a driving shaft **1518**. Optionally, the shaft is supported by shaft supports **1519**. The shaft supports may include C or U shaped portions (not shown) that are operative to receive and snap around the shaft. Other means for retaining a shaft in a support are known in the art. The cam portions **1512**, **1514** can comprise one or more rectilinear, curvilinear, or other bends in the shaft **1518**. As is illustrated in FIG. 15 the first cam portion **1512** is located adjacent a first side of the pivot and the second cam portion **1514** is located adjacent a second side of the pivot. The second cam portion **1514** can comprise a portion of the remote-most end or cam (not shown but similar to the remote-most end or cam **20** of FIG. 3) of the shaft **1518**. First

1520 and second **1522** cam contact surfaces are located on a bottom surface of the second bristle holder **1508**. As is the case with all the described embodiments, the amplitude or height of the bends or eccentricities that make up the first and second cam portions **1512**, **1514** are large enough reach the related cam contact surface(s) and to drive the second bristle holder a desired distance toward, into, across or along a toothbrush users teeth. Changing the distance between the apexes and the pivot point can vary the required amplitude or height. Changing the distance between the apexes and the pivot point may affect a required or desired torque delivered by the motor **819**. As the motor **819** of the enhanced toothbrush **810** rotates the shaft **1518**, the first cam portion **1512** comes into contact with the first cam contact surface **1520** and drives or lifts (relative to the figure) a first end ~~**1522**~~ **1530** of the second bristle holder ~~**1510**~~ **1508** causing the first end ~~**1522**~~ **1530** to rock or move about the pivot **1510** in a direction away from the head portion **816** and toward the teeth of a toothbrush user (not shown). This action lowers a second end **1526** of the second bristle holder back toward the head portion **816**. As the shaft **1518** continues to rotate, the first cam portion **1512** becomes disengaged with the first cam contact surface **1520** and the second cam portion **1514** engages the second cam contact surface **1522**. The second cam portion **1514** drives or lifts (relative to the figure) the second end **1526** of the second bristle holder **1508** causing the second end ~~**1522**~~ **1526** to rock or move about the pivot **1510** in a direction away from the head portion **816** and toward the teeth of the toothbrush user. This action lowers a first end **1530** of the second bristle holder back toward the head portion **816**. During use, as the first and second cam portions **1512**, **1514** alternately come in contact with the first and second cam contact surfaces **1520**, **1522**, bristles of the second bristle holder **1508** are urged against teeth of the user with varying degrees of force. Preferably, bristles of the second bristle holder **1508** are urged between the teeth of the user to provide a cleaning and flossing function. As the rocking or pivoting motion is repeated (as the shaft **1518** continues to rotate), a flossing or deep cleaning motion is provided that is distinct from and complimentary to the motion provided by the first bristle holder **814**.

f) Beginning at page 13, lines 7-27 with the following amended paragraph:

Referring to FIG. 17 and FIG. 18, in a eighth embodiment of the enhanced toothbrush **810** a second bristle holder **1810** is movably mounted in slots **1812** in the toothbrush head **816** and separately driven in a reciprocating or translating, transverse motion within the slots **1812** by a cam **1816** included on a driving shaft **1818**. The cam **1816** can comprise an appropriately shaped bead placed over or molded and fixedly secured to the shaft **1818**. For example, the bead is shaped as an eccentric cam. Alternatively, the cam can include one or more rectilinear, curvilinear or other kind of bend. First **1822** and second **1826** cam followers depend from a bottom surface of the second bristle holder **1810**. The cam followers are, for example, offset from the longitudinal axis **818** of the second bristle holder and straddle or capture the cam **1816**. As the motor **819** (see FIG. 8) rotates the shaft **1818**, the cam **1816** comes into contact with a surface **1821** of the first cam follower **1822** and drives the first cam follower **1822**, and therefore, the second bristle holder **1810** away from a first side **1828** of the head portion **816** along a transverse axis **1830** of the head portion **816**. As the shaft **1818** continues to rotate, the cam **1816** becomes disengaged with the first cam follower **1822**. The cam **1816** then comes into contact with a surface **1825** of the second cam follower **1826** and drives the second cam follower **1826**, and therefore, the second bristle holder **1810** back toward the first side **1828** of the head portion **816**. As this back and forth or side to side motion is repeated (as the shaft ~~918~~ 1918 continues to rotate), a sweeping motion is provided that is distinct from and complimentary to the motion provided by the first bristle holder **814**.

2) Please add the following description between the description of Fig. 8 and Fig. 9, at approximately page 2, line 11:

Fig. 8A is an alternate embodiment of the enhanced toothbrush of Fig. 8.